

# INSTALLATION OPERATION AND SERVICE MANUAL

## CUISINE C SERIES COMMERCIAL RANGES, ADD-A-UNITS, MODULAR RANGES, AND CHAR BROILERS



**FOR YOUR SAFETY:**  
DO NOT STORE OR USE GASOLINE  
OR OTHER FLAMMABLE VAPORS OR  
LIQUIDS IN THE VICINITY OF  
THIS OR ANY OTHER  
APPLIANCE

**WARNING:**  
IMPROPER INSTALLATION, ADJUSTMENT,  
ALTERATION, SERVICE OR MAINTENANCE  
CAN CAUSE PROPERTY DAMAGE, INJURY,  
OR DEATH. READ THE INSTALLATION,  
OPERATING AND MAINTENANCE  
INSTRUCTIONS THOROUGHLY  
BEFORE INSTALLING OR  
SERVICING THIS EQUIPMENT

PLEASE READ ALL SECTIONS OF THIS MANUAL  
AND RETAIN FOR FUTURE REFERENCE.

THIS PRODUCT HAS BEEN CERTIFIED AS  
COMMERCIAL COOKING EQUIPMENT AND  
MUST BE INSTALLED BY PROFESSIONAL  
PERSONNEL AS SPECIFIED.

IN THE COMMONWEALTH OF MASSACHUSETTS  
THIS PRODUCT MUST BE INSTALLED BY A  
LICENSED PLUMBER OR GAS FITTER. APPROVAL  
NUMBER: G-1-07-05-28

For Your Safety:  
Post in a prominent location, instructions to be  
followed in the event the user smells gas. This  
information shall be obtained by consulting  
your local gas supplier.

Users are cautioned that maintenance and repairs must be performed by a Garland authorized service agent using genuine Garland replacement parts. Garland will have no obligation with respect to any product that has been improperly installed, adjusted, operated or not maintained in accordance with national and local codes or installation instructions provided with the product, or any product that has its serial number defaced, obliterated or removed, or which has been modified or repaired using unauthorized parts or by unauthorized service agents. For a list of authorized service agents, please refer to the Garland web site at <http://www.garland-group.com>. The information contained herein, (including design and parts specifications), may be superseded and is subject to change without notice.

### Original Document

## IMPORTANT INFORMATION

**WARNING:**

**This product contains chemicals known to the state of California to cause cancer and/or birth defects or other reproductive harm. Installation and servicing of this product could expose you to airborne particles of glass wool/ceramic fibers. Inhalation of airborne particles of glass wool/ceramic fibers is known to the state of California to cause cancer. Operation of this product could expose you to carbon monoxide if not adjusted properly. Inhalation of carbon monoxide is known to the state of California to cause birth defects or other reproductive harm.**

**Keep appliance area free and clear of combustibles.**

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# SPECIFICATIONS

**Table A: Gas Pressures**

SUPPLY GAS PRESSURE RANGE		
Type	Minimum	Maximum
Natural	7" W.C. (17.5 mbar)	14" W.C. (35 mbar)
Propane	11" W.C. (27.5 mbar)	14" W.C. (35 mbar)
MANIFOLD OPERATING PRESSURE		
Type	Natural	Propane
Ranges, Broilers	6" W.C. (15 mbar)	10" W.C. (25 mbar)

**Table B: Model Designations**

MODELS	DESCRIPTION
<b>Standard Oven Base</b>	
C36-1R	36" Griddle
C36-1-1R	36" Thermostatic Griddle
C36-2R	24" Griddle, (2) Open Burners (12" Top Grate)
C36-2-1R	24" Therm. Griddle, (2) Open Burners (12" Top Grate)
C36-3R	24" Griddle, 12" Hot Top
C36-3-1R	24" Therm. Griddle, 12" Hot Top
C36-4R	18" Griddle, (2) Open Burners (18" Top Grate)
C36-4-1R	18" Therm. Griddle, (2) Open Burners (18" Top Grate)
C36-5R	18" Griddle, 18" Hot Top
C36-5-1R	18" Therm. Griddle, 18" Hot Top
C36-6R	Six Open Burners – (3) 12" Top Grates
C36-6SUR	Six Open Burners (3 Are Step-up) – (6) Half Top Grates (12" Inch Wide Each)
C36-7R	Four Open Burners (2) 18" Top Grates
C36-8R	(3) 12" Hot Tops
C36-9R	(2) 18" Hot Tops
C36-10R	(2) 18" Front Fired Hot Tops
C36-11R	18" Hot Top (Left), 18" Front Fired Hot Top (Right) OR 18" Front Fired Hot Top (Left), 18" Hot Top (Right)
C36-12R	(2) Open Burners, 12" Top Grate (Left, Centre or Right), 12" Hot Top (Left or Centre), 12" Hot Top (Centre or Right)
C36-13R	12" Hot Top (Left, Right or Centre), (2) Open Burners, 12" Top Grate (Left or Centre), (2) Open Burners, 12" Top Grate (Centre or Right)
C36-14R	(2) Open Burners, 18" Top Grate (Left or Right), 18" Hot Top (Left or Right)
C36-15R	(3) 12" French Tops
C36-17R	(2) Open Burners, 18" Top Grate (Left or Right), 18" Front Fired Hot Top (Right or Left)



# SPECIFICATIONS Continued

MODELS	DESCRIPTION
<b>Convection Oven Base</b>	
C36-1C	36" Griddle
C36-1-1C	36" Thermostatic Griddle
C36-2C	24" Griddle, (2) Open Burners (12" Top Grate)
C36-2-1C	24" Therm. Griddle, (2) Open Burners (12" Top Grate)
C36-3-C	24" Griddle, 12" Hot Top
C36-3-1C	24" Therm. Griddle, 12" Hot Top
C36-4-C	18" Griddle, (2) Open Burners (18" Top Grate)
C36-4-1C	18" Therm. Griddle, (2) Open Burners (18" Top Grate)
C36-5C	18" Griddle, 18" Hot Top
C36-5-1C	18" Therm. Griddle, 18" Hot Top
C36-6C	Six Open Burners – (3) 12" Top Grates
C36-6SUC	Six Open Burners (3 Are Step-up) – (6) Half Top Grates (12" Inch Wide Each)
C36-7C	Four Open Burners (2) 18" Top Grates
C36-8C	(3) 12" Hot Tops
C36-9C	(2) 18" Hot Tops
C36-10C	(2) 18" Front Fired Hot Tops
C36-11C	18" Hot Top (Left), 18" Front Fired Hot Top (Right) or 18" Front Fired Hot Top (Left), 18" Hot Top (Right)
C36-12C	(2) Open Burners, 12" Top Grate (Left, Centre or Right), 12" Hot Top (Left or Centre), 12" Hot Top (Centre or Right)
C36-13C	12" Hot Top (Left, Centre or Right), (2) Open Burners, 12" Top Grate (Left or Centre), (2) Open Burners, 12" Top Grate (Centre or Right)
C36-14C	(2) Open Burners, 18" Top Grate (Left), 18" Hot Top (Right) or (2) Open Burners, 12" Top Grate (Right), 18" Hot Top Grate (Left)
C36-15C	(3) 12" French Tops
C36-17C	(2) Open Burners, 18" Top Grate (Left or Right), 18" Front Fired Hot Top (Left or Right)
<b>Storage Base (Open Cabinet)</b>	
C36-1S	36" Griddle
C36-1-1S	36" Thermostatic Griddle
C36-2S	24" Griddle, (2) Open Burners (12" Top Grate)
C36-2-1S	24" Therm. Griddle, (2) Open Burners (12" Top Grate)
C36-3S	24" Griddle, 12" Hot Top
C36-3-1S	24" Therm. Griddle, 12" Hot Top
C36-4S	18" Griddle, (2) Open Burners (18" Top Grate)
C36-4-1S	18" Therm. Griddle, (2) Open Burners (18" Top Grate)
C36-5S	18" Griddle, 18" Hot Top
C36-5-1S	18" Therm. Griddle, 18" Hot Top
C36-6S	Six Open Burners – ((3) 12" Top Grates
C36-6SUS	Six Open Burners (3 Are Step-up) – (6) Half Top Grates (12" Inch Wide Each)
C36-7S	Four Open Burners (2) 18" Top Grates
C36-8S	(3) 12" Hot Tops
C36-9S	(2) 18" Hot Tops



## SPECIFICATIONS Continued

MODELS	DESCRIPTION
<b>Storage Base (Open Cabinet) Continued</b>	
C36-10S	(2) 18" Front fired Hot Tops
C36-11S	18" Hot Top (Left), 18" Front Fired Hot Top (Right) or 18" Front Fired Hot Top (Left), 18" Hot Top (Right)
C36-12S	(2) Open Burners, 12" Top Grate (Left, Centre or Right), 12" Hot Top (Left or Centre), 12" Hot Top (Right or Centre)
C36-13S	12" Hot Top (Left, Centre or Right), (2) Open Burners, 12" Top Grate (Left or Centre), (2) Open Burners, 12" Top Grate (Centre or Right)
C36-14S	(2) Open Burners, 18" Top Grate (Left or Right), 18" Hot Top (Left or Right)
C36-15S	(3) 12" French Tops
C36-17S	(2) Open Burners, 18" Top Grate (Left or Right), 18" Front Fired Hot Top (Left or Right)
<b>Modular "T" Top (On Square Tubular Legs)</b>	
C36-1M	36" Griddle
C36-1-1M	36" Thermostatic Griddle
C36-2M	24" Griddle, (2) Open Burners (12" Top Grate)
C36-2-1M	24" Therm. Griddle, (2) Open Burners (12" Top Grate)
C36-3M	24" Griddle, 12" Hot Top
C36-3-1M	24" Therm. Griddle, 12" Hot Top
C36-4M	18" Griddle, (2) Open Burners (18" Top Grate)
C36-4-1M	18" Therm. Griddle, (2) Open Burners (18" Top Grate)
C36-5M	18" Griddle, 18" Hot Top
C36-5-1M	18" Therm. Griddle, 18" Hot Top
C36-6M	Six Open Burners – (3) 12" Top Grates
C36-6SUM	Six Open Burners (3 Are Step-up) – (6) Half Top Grates (12" Inch Wide Each)
C36-7M	Four Open Burners (2) 18" Top Grates
C36-8M	(3) 12" Hot Tops
C36-9M	(2) 18" Hot Tops
C36-10M	(2) 18" Front Fired Hot Tops
C36-11M	18" Hot Top (Left), 18" Front Fired Hot Top (Right) or 18" Front Fired Hot Top (Left), 18" Hot Top (Right)
C36-12M	(2) Open Burners, 12" Top Grate (Left, Centre or Right), 12" Hot Top (Left or Centre), 12" Hot Top (Right or Centre)
C36-13M	12" Hot Top, (Left, Centre or Right), (2) Open Burners, 12" Top Grate (Left or Centre), (2) Open Burners, 12" Top
C36-14M	(2) Open Burners, 18" Top Grate (Left or Right), 18" Hot Top (Left or Right)
C36-15M	(3) 12" French Tops
C36-17M	(2) Open Burners, 18" Top Grate (Left or Right), 18" Front Fired Hot Top (Left or Right)

# SPECIFICATIONS Continued

MODELS	DESCRIPTION
<b>Char-Broilers on Standard Oven Base</b>	
C36-ABR	Lava Rock W/Adjustable Grates – 36" Wide
C36-ARR	Cast Iron Radiants W/Adjustable Grates – 36" Wide
C36-NRR	Cast Iron Radiants W/Non-Adjustable Grates – 36" Wide
<b>Char-Broilers on Convection Oven Base</b>	
C36-ABC	Lava Rock W/Adjustable Grates – 36" Wide
C36-ARC	Cast Iron Radiants W/Adjustable Grates – 36" Wide
C36-NRC	Cast Iron Radiants W/Non-Adjustable Grates – 36" Wide
<b>Range Match Char-Broilers on Storage Base (Open Cabinet)</b>	
C24-ABS	Lava Rock W/Adjustable Grates – 24" Wide
C36-ABS	Lava Rock W/Adjustable Grates – 36" Wide
C24-ARS	Cast Iron Radiants W/Adjustable Grates – 24" Wide
C36-ARS	Cast Iron Radiants W/Adjustable Grates – 36" Wide
C24-NRS	Cast Iron Radiants W/Non-Adjustable Grates – 24" Wide
C36-NRS	Cast Iron Radiants W/Non-Adjustable Grates – 36" Wide
<b>Modular "T" Top Char-Broilers on Square Tubular Legs</b>	
C24-NRM	Cast Iron Radiants W/Non-Adjustable Grates – 24" Wide
C36-NRM	Cast Iron Radiants W/Non-Adjustable Grates – 36" Wide
<b>12" Wide, Add-A-Units with Storage Base (Open Cabinet)</b>	
C12-1S	12" Griddle
C12-1-1S	12" Thermostatic Griddle
C12-6S	(2) Open Burners (12" Top Grate)
C12-8S	12" Hot Top
C12-15S	12" French Top
<b>18" Wide, Add-A-Units with Modular Top/Square Tubular Legs</b>	
C18-1M	18" Griddle
C18-1-1M	18" Thermostatic Griddle
C18-7M	(2) Open Burners (18" Top Grate)
C18-9M	18" Hot Top
C18-10M	18" French Top
<b>18" Wide, Add-A-Units with Storage Base (Open Cabinets)</b>	
C18-1S	18" Griddle
C18-1-1S	18" Thermostatic Griddle
C18-7S	(2) Open Burners (18" Top Grate)
C18-9S	18" Hot Top
C18-10S	18" French Top



# SPECIFICATIONS Continued

MODELS	DESCRIPTION
<b>Additional Griddle Models</b>	
<b>48" Wide Units</b>	
C48-1R	36" Std. Oven Base + 12" Storage Base + 48" Manual Griddle Top
C48-1-1R	36" Std. Oven Base + 12" Storage Base + 48" Therm. Griddle Top
C48-1C	36" RC Oven Base + 12" Storage Base + 48" Manual Griddle Top
C48-1-1C	36" RC Oven Base + 12" Storage Base + 48" Therm. Griddle Top
C48-1S	36" Storage Base + 12" Storage Base + 48" Manual Griddle Top
C48-1-1S	36" Storage Base + 12" Storage Base + 48" Therm. Griddle Top
C48-1M	48" Modular Top + 48" Manual Griddle Top
C48-1-1M	48" Modular Top + 48" Thermostatic Griddle Top

PREFIX DEFINITIONS:		SUFFIX DEFINITIONS:	
C	Cuisine	A	Broiler
		M	Modular Top Section
		C	Unit With Convection Oven
		R	Unit With Standard Oven
		SU	Step Up Burner
		S	Unit With Storage Base



# SPECIFICATIONS Continued

**Table C: Input Rating**

Model Number	GAS TYPE	
	Natural (@ 6"W.C.)	Propane (@ 10"W.C.)
	BTU/HR	BTU/HR
Open Burner for Models: C36-2,-2-1,-6,-6SU,-12,-13,-15(Front)	35,000	33,000
Open Burner for Models: C36-4,-4-1,-7,-14,-17	40,000	38,000
C36-15 Rear hot-top burner	15,000	15,000
C36-10,-11,-17 Front fired hot top burner	12,500	12,500
C36-3,-3-1,-8,-12,-13,-12" Hot top burner	25,000	25,000
C36-5,-5-1,-9,-11,-14, 18" Hot top burner	32,500	32,500
C36-1,-1-1,-2,-2-1,-3,-3-1,-4,-4-1,-5,-5-1 Griddle burner	30,000	30,000
C36 Convection Oven burner	37,000	35,000
C24/36-AB Broiler burner	45,000	45,000
C18-NR, C24/36-AR, -NR Broiler burner	18,000	18,000
C36 Std oven burner	40,000	35,000

(Note: data applied to operation at elevation from sea level to 2000 ft)



# INTRODUCTION

## Uncrating

1. Check crate for possible damage sustained during transit. Carefully remove unit from crate and again check for damage. Any damage to the appliance must be reported to the carrier immediately.
2. The wires for retaining the burners and other packing material must be removed from units. Any protective material covering stainless steel parts must also be removed.
3. All equipment is shipped from the factory with legs fitted, unless otherwise specified. Where the range is to be mounted on a dias or cove base, it is shipped without legs. Legs must be fitted to the oven where it is installed on a combustible floor.
4. The type of gas and supply pressure that the equipment was set-up for at the factory is noted on the data plate and on the packaging. This type of gas supply must be used.
5. Do not remove permanently affixed labels, warnings or data plates from the appliance, for this may invalidate the manufacturer's warranty.

## Rating Plate

Every cooking unit has a rating plate. Information on this plate includes model and serial numbers. Knowing the equipment model and serial number is essential if spare parts are required or for discussing equipment problems with Garland's technical support staff. Other information on the rating plate indicates BTU/hr input of the burners, manifold gas pressure in inches water column (WC) and whether orifices are for natural or propane gas. The following table gives the location of the rating plate on the designated models, and Table B in the Specification Section lists the various models of heavy duty equipment in the U.S. range gas operated Cuisine series.

MODEL WITH SUFFIX	LOCATION
R or C	Behind the lower kick panel
S	In the storage cabinet on the left hand side panel
M	On the front panel

NOTE: Cuisine heavy duty gas operated equipment must be connected only to the type of gas identified on the rating plate!

# INSTALLATION

## Clearances to Combustible Construction

MODELS	CLEARANCES
C36-ARR/-ARC	Installation in Non-Combustible Locations Only with 0" Side & Rear Clearance
C36-NRR/-NRC	
C24/C36-ABS	
C24/C36-ARS	
C18/C24/C36-NRS	
C18/C24/C36-NRM	
All Other Models	10" (254mm) Side, 6" (152mm) Rear, from combustible walls.

1. All models may be installed with 0" side and rear clearance from non-combustible construction.

NOTE: When installed without legs on a non-combustible curb or platform, front of unit should extend at least 3 inches (76mm).

NOTE: Adequate clearance must be provided for servicing and proper operation.

## Installation Procedure

1. Remove all packing material.
2. Remove the front valve panel.

# INSTALLATION Continued

- Place the appliance in the required position and level by means of the adjustable feet, or shims if the appliance is not equipped with legs.
- Where spreader plates are installed between units the plate is secured at the front by means of the gas manifold and at the rear by means of the connecting bolts.
- Connect the gas supply pipe work to the appliance. The connection may be made to the left or right hand side of the appliance or optionally at the rear on some models.

## Siting

The floor on which the appliance is to be sited must be capable of adequately supporting the weight of the appliance and any ancillary equipment.

Units with ovens must be fitted with legs if installed on a combustible floor. The equipment area must be kept free and clear of combustible substances.

## Appliance Equipped With Casters

- The installation shall be made with a connector that complies with the Standard for Connectors for Moveable Gas Appliances, ANSI Z21.69/CSA 6.16, Addenda Z21.69B-2006/CSA 6.16B-2006 (or latest edition), and a quick-disconnect device that complies with the Standard for Quick Disconnects for Use with Gas Fuel, ANSI Z21.41/CSA 6.9, Addenda Z21.41A-2005/CSA 6.16A-2005 (or latest edition).
- The front casters of the unit are equipped with brakes to limit the movement of the oven without depending on the connector and any quick-disconnect device or its associated piping to limit the appliance movement.
- Please be aware, that the required restraint is attached to a bracket (which is located on the left rear caster) and if disconnection of the restraint is necessary, be sure to reconnect the restraint after the appliance has been returned to its originally installed position.

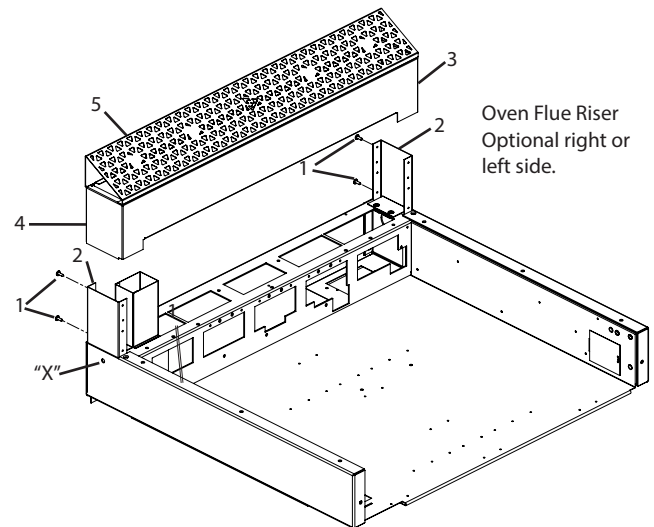
## Appliances Equipped With Legs

Raise front of the unit and block. Do not lay unit on its back. Position leg insert into leg retainer opening and tap up until it seats at collar flange. Repeat at rear of unit making sure all four legs are adjusted to the same height. Legs can be

adjusted to overcome an uneven floor.

## Installation Instructions for Cuisine Stub Backguard

Figure 1



- Remove four #10-24 self tap screws (item 1) from rear of uprights (item 2) installed in range and set aside.
- Install backguard assembly (item 3) over uprights (item 2) in range and reinstall screws removed in step 1 through holes in backguard back panel (item 4) and rear of top cap (item 5).
- If the range is in a battery line-up, fasten units together at hole marked "X" with 1/4" x 20 bolts, nuts and washers.

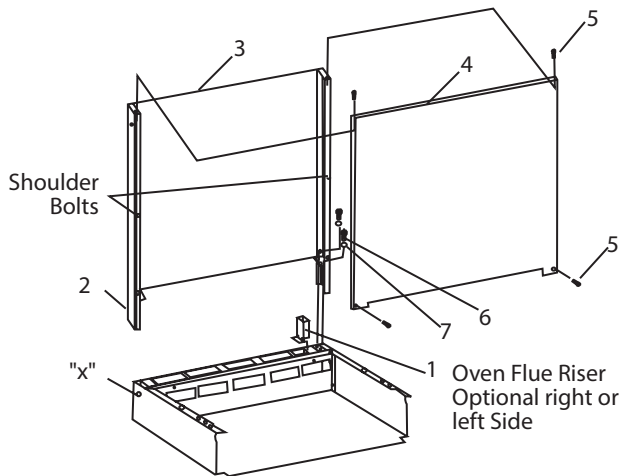
NOTE: Stub Backguard is shipped pre-assembled (with the range) as standard equipment on all Cuisine units, unless optional back riser or high shelf has been ordered.

# INSTALLATION Continued

## Installation Instructions for Cuisine Back Risers.

### Double Deck Risers

Figure 2



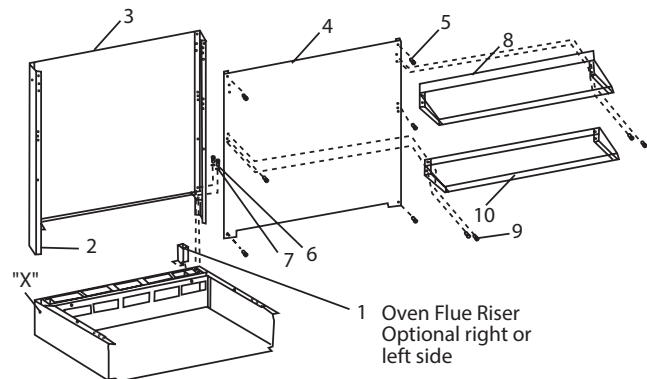
1. Remove four 5/16 hex bolts and flat washers from top rear of unit.
2. Remove four #10 x 1 1/4" long sheet metal screws (Item 5) from top and lower front corners of front panel. Remove front panel by lifting upwards and pulling outward to clear heads of shoulder bolts affixed to uprights (Item 2).
3. With back panel, (3), still attached to the uprights, (2), drop the uprights into the rectangular openings at the rear of the range.
4. Fasten the uprights, (2), to the range with four, 5/16" x 18 bolts and flat washers, (Item 6 & 7) removed in step one.
5. If the range is in a battery line-up fastens units together at hole marked "X" with 1/4-20 bolts, nuts and washers.
6. Reattach the front panel by placing notches in back of the front panel over heads of shoulder bolts and pulling panel down until the top of the front panel rests on top of uprights. This will allow shoulder bolts to lock panel in-place. Re-install sheet metal screws (Item 5) previously removed.

### Single Deck Risers:

Follow instructions above for double-deck backriser but as there are no shoulder bolts involved in the single deck assembly, the installation and removal of the front panel only comprises assembly and disassembly of the four #10 x 1 1/4" long sheet metal screws (Item 5).

## Installation Instructions For Cuisine Single And Double Deck High Shelves

Figure 3



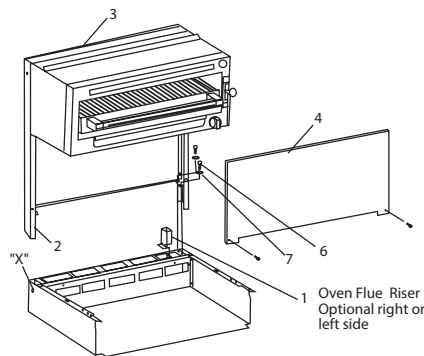
1. Remove four 5/16" x 18 hex bolts and flat washers from top rear of unit (Item 6 & 7).
2. Remove four (4) 1/4-20 locking acorn nuts securing shelf (Item 9). Remove shelf.
3. Remove (6) #10 sheet metal screws (Item 5) that affix front panel (Item 4) to uprights (Item 2).
4. With back panel (3) still attached to uprights (2), drop the uprights into the rectangular openings at the rear of the range.
5. Fasten the uprights (2) to the range with four (4) 5/16" x 18 bolts and flat washers previously removed.
6. If the appliance is in a battery line-up, fasten unit together at hold marked "X" with 1/4 - 20 bolts, nuts and washers.

# INSTALLATION Continued

7. Reattach the front panel by first aligning clearance holes with studs in uprights and then re-installing sheet metal screws (Item 5) previously removed.
8. After installing front panel install shelf (Item 8) by hooking the top of shelf over the top of the front panel. Threaded studs on uprights will pass through clearance holes on rear of shelf. Fasten shelf to studs via 1/4 - 20 locking acorn nuts provided (Item 9).
9. For double deck shelves, mount the lower shelf (one with flat back and no upper hook) to uprights through front panel via locking nuts (Item 9) provided to 1/4" - 20 threaded studs on uprights.

## Installation Instructions For Cuisine Salamander or Cheese Melter

Figure 4



1. Remove four 5/16 x 18 hex bolts and flat washers (Items 6 & 7) from rear top of unit.
2. Remove front panel, (4), by removing two, (2), sheet metal screws from the underside of the salamander or cheesemelter.
3. With back panel, (3), still attached to the uprights, (2), drop the uprights into the rectangular openings at the rear of the range.
4. Fasten the uprights (2), to the range with four, (4) 5/16" x 18 and flat washers, (6 & 7) removed previously.
5. If the range is in a battery line-up, fasten units together at hole marked "X" with 1/4 - 20 bolts, nuts and washers.
6. Reattach the front panel, (4) to the salamander or Cheesemelter with sheet metal screws previously removed.

## Installation Instructions For Cuisine Modular Units on Delfield Refrigeration Bases

Polar Cuisine refrigeration bases from Delfield have a U-channel welded across the back and are provided with spring loaded T-nuts in the channel. Using the brackets and bolts supplied with the modular unit, clamp the rear corners of the unit to the U-channel of the refrigeration base by bolting the brackets to the T-nuts in the channel. See photo below.



Clamp bolt (provided with Cuisine Modular Unit)

Rail clamp (provided with Cuisine Modular unit)

## Statutory Regulations

The installation of this appliance must be carried out by a competent person and in accordance with the relevant regulations, codes of practice and the related publications of the country of destination.

## Gas Supply

The local gas authority should be consulted at the installation planning stage in order to establish the availability of an adequate supply of gas and to ensure that the meter is adequate for the required flow rate. The pipe work from the meter to the appliances must be of an appropriate size. Where a number of appliances are installed in a battery, no more than five should be served by any one supply pipe.

All fixed (non-mobile) appliances MUST be fitted with a manual gas cock-upstream of the appliance to provide a means of isolation for servicing or cleaning purposes. A union or similar means of disconnection must be provided between the gas cock and the appliance.

A manually operable valve must be fitted to the gas supply to the kitchen to enable it to be isolated in a emergency. Wherever the practical, this shall be located either outside the kitchen or near to an exit in a readily accessible position.

# INSTALLATION Continued

Where it is not practical to do this, an automatic isolation valve system shall be fitted which can be operated from a readily accessible position near to the exit.

At locations where the manual isolation valve is fitted or the automatic system can be reset a notice **MUST** be fitted stating:

**“ALL DOWNSTREAM BURNER AND PILOT VALVES MUST BE TURNED OFF PRIOR TO ATTEMPTING TO RESTORE THE SUPPLY AFTER EXTENDED SHUT OFF, PURGE BEFORE RESTORING GAS.”**

## Gas Supply Notes:

Before assembly and connection check gas supply.

- A. The type of gas for which the unit is equipped is stamped on the data plate located behind the lower front panel. Connect a unit stamped “NAT” only to natural gas; connect one stamped “PRO” only to propane gas.
- B. If it is a new installation have the gas authorities check meter size and piping to assure that the unit is supplied with the necessary amount of gas pressure required to operate the unit.
- C. If it is additional or replacement equipment have gas authorities check pressure to make certain that existing meter and piping will supply fuel to the unit with not more than 1/2” water column pressure drop.

**NOTE:** When checking gas pressure be sure that all other equipment on the same gas line is on. A pressure regulator is not supplied as standard equipment with US Range Heavy Duty Equipment, however a 1-1/4” pressure regulator is sold as an option with the original purchase. If you would like to purchase a regulator after original purchase contact your equipment dealer. The installation must conform with the national Fuel Gas Code ANSI Z 223.1 -1988 or latest edition, NFPA No. 54 – latest edition and National Electrical Code ANSI/NFPA 70-1990 or latest edition and/or local code to assure safe and efficient operation. In Canada, the installation must comply with CAN/CGA-149.1 Natural Gas Installation Code, or CAN/CGA-B149.2 Propane Gas Installation code, and local codes where applicable.

In Canada, electrical connections must comply with applicable sections of the Canadian Electrical Code, C22.1 -1990, (or latest edition), “Safety Standard for Installation, Part 1” and C22.2 – No. 0-M 1982; (or latest edition), “General Requirements, Part 2”.

**Note:** The appliance and its individual shut-off valve must be disconnected from the gas supply piping system during any

pressure testing of that system at pressures in excess of 1/2 PSIG (3.45 kPa).

The appliance must be isolated from the gas supply piping system by closing its individual manual shut-off (not supplied with appliance) during any testing of the gas supply piping system at test pressures equal to or less than 1/2 PSIG (3.45kPa).

**NOTE:** This appliance is not recommended for residential installation.

## Gas Connection

The gas pipe connection is made at the left hand side or right hand side of the equipment or optionally at rear on some units.

**Note:** If the gas connection to the unit is via a flexible gas hose be sure cable restraints are assembled to the unit.

The size of the pipe work supplying the appliance must not be less than the inlet connection, which is 1 1/4” NPT. (Note: a 3/4” NPT single unit optional connection must be specified.) An isolating valve is recommended to be close to and upstream of the appliance and regulator to allow for shutdown during an emergency or routine servicing. A gas pressure regulator must be installed at the appliance prior to connecting the equipment to the gas supply (service) line. Failure to install a regulator will void the equipment warranty. After installation, be certain to check the complete pipe work for leakage.

## Electrical Supply (Models with Convection Oven only)

The electrical supply required is single phase, 115V, 60Hz. As an option, equipment can be supplied for 240V, 60Hz operation.

If 240V, the supply must be connected to the terminal block termination located at the rear of the range for models with the suffix C.

For ease in attaching the supply line, there is a removable cover. A qualified electrician should make the connection to the mains in accordance with the applicable local codes.

### **WARNING: Electrical Grounding Instructions.**

This appliance is equipped with a three prong (grounding) plug for your protection against shock hazard and should be plugged directly into a properly grounded three-prong receptacle. Do not cut or remove the grounding prong from this plug.

# INSTALLATION Continued

**POWER FAILURE NOTE:** In the event of a power failure, no attempt should be made to operate this oven. This oven is gas operated but has electrical features, motor and door switches.

## Assembly of Battery

All models described except Models C36-ABR, C36-ARR, C36-ABC and C36-ARC may be installed to battery with Cuisine Series Ranges, sharing common manifold connections. Models C36-ABR, C36-ARR, C36-ABC and C36-ARC range base broilers may be connected to other like broilers, but cannot be placed in a battery with other Cuisine units.

- A. All such units should be placed in their respective battery position. Detach valve panels to prevent damage and remove them from the area where the battery is being assembled.
- B. Level each unit (to the front rail) by adjusting the six inch (6") legs or where legs are not used, adjust level with shims. Readjust legs, if required.
- C. Connect units together by mating the unions at each end of the manifold. (Adjoining units must have matching unions, unless the union parts are of the same specifications, a leak proof connection cannot be assured.) Hand tighten unions at this point.
- D. The units should be fastened at the rear by inserting 5/16" bolts through the holes provide at the rear of the burner box sides. Install washer and nut and hand tighten. Be sure of proper unit alignment in the battery before final tightening of these bolts or unions, improper tightening will cause "fanning" or "bowing" of battered units.

The final tightening of the union should be accomplished by using a suitable spanner wrench. If such a wrench is not available, the GARLAND union collar has special ridges, and a cold chisel can be driven against these ridges to properly seat and seal the union.

- E. The manifold of this unit or the manifold of which it is a part of must be equipped with a certified pressure regulator suitable for battery application and adjustable for an outlet pressure at the manifold as specified on the rating plate.

## Ventilation And Air Supply

The range(s) must be installed so that the flow of combustion and ventilation air is unobstructed. Adequate clearance for air openings into combustion chambers must be provided.

Avoid installing units on a convection oven base back to back with a high heat emitting appliance such as a wood or charcoal burning broiler. The high temperatures can shorten the life of the convection motor.

Proper ventilation is highly important for good operation. The ideal method of ventilating a range is the use of a properly designed canopy which should extend approximately six inches (6", 152 mm) beyond all sides of the appliance and six feet (6') six inches (6"), (1981mm) from the floor.

A strong exhaust fan will create a vacuum in the room. For an exhaust system vent to work properly, replacement air must enter the room in which the vent is located.

All gas burners and pilots need sufficient air to operate and large objects should not be placed in front of the appliance which would obstruct the airflow through the front.

The following notes are intended to give general guidance. For detailed recommendations, refer to the applicable code(s) in the country of destination.

**NOTE 1:** The room containing the appliance is required to have a permanent air vent. The minimum effective area of the vent is related to the maximum rated heat input of the appliance and shall be 4.5 cm<sup>2</sup> per kW (2.04 X 10<sup>-4</sup> in<sup>2</sup> per BTU/H) in excess of 7 kW. (23,900 BTU/H).

**NOTE 2:** Air vents should be of such a size to compensate for the effects of any extract fan in the premises.

# COMMISSIONING

## Pressure Regulators.

1. Must have a maximum regulation capacity for the total connected load.
2. The pressure regulator(s) installed must be listed by a nationally recognized agency.
3. The pressure regulators must have a pressure adjustment range to allow adjustment to the manifold pressure on the appliance rating plate.
4. Unless the manifold pressure on all connected appliances is the same, a separate pressure regulator must be supplied for each appliance having differing manifold pressures.
5. Gas supply lines may be connected at right, left or both ends of a battery or at the TEE connections on spreader plates. If five (5) or more units are placed in a battery, more than one (1) supply line should be used. A readily accessible, approved type of hand shut-off valve should be installed on each supply line.

**WARNING:** Local codes may require that the pressure regulator be externally vented. This will be supplied by others.

## Testing and Adjustments.

All fittings and pipe connections, including connections internal to the unit, must be tested for leaks. Use approved gas leak detectors, soap solutions or equivalent, checking over and around the fittings and pipe connections. **DO NOT USE A FLAME!** Accessibility to all gas lines and fittings require that valve panel(s), knob(s), lower front panel(s), oven rack(s) be removed. It may be necessary to remove or at least raise and securely prop-griddles, hot tops and top grates. All parts removed (including fasteners) should be stored safely for re-use.

**NOTE:** Each valve knob has a set screw fastening it to the valve. This set screw must be loosened prior to removing the knob. Subsequent to replacing the knob, tighten the set screw to affix the knob to the valve.

### Testing

1. Be sure that all valves and thermostats are in the "OFF" position.
2. Turn on the main gas supply valve. Light all top section pilots.

3. Leak test all valves and fittings as described in the procedure above. Correct any leaks as required and recheck.
4. Light oven pilot.
5. If the range is provided with an oven shut-off valve separate from the thermostat, turn this valve on and set the thermostat at 500°F (260°C) degrees. If the range oven thermostat has an "OFF" position on the dial the thermostat is equipped with an internal, integral shut-off valve. Set this thermostat dial to 500°F (260°C) degrees. In both cases, gas will now flow to the oven burner.
6. Leak test all valves, fittings, etc, as above. Correct any leaks and retest.
7. Shut off all range valves and set thermostat dials to "OFF" or low position.

All units are tested and adjusted at the factory. However, burners and pilots should be checked at installation and adjusted if necessary.

**CAUTION:** Gas will flow to top burners even with top pilots out. Gas will not be interrupted. It is the responsibility of the operator to check the ignition of the burners. Should ignition fail after ten (1) seconds, turn burner valve off and wait five (5) minutes and then try again.

## Pressure Settings (All Models)

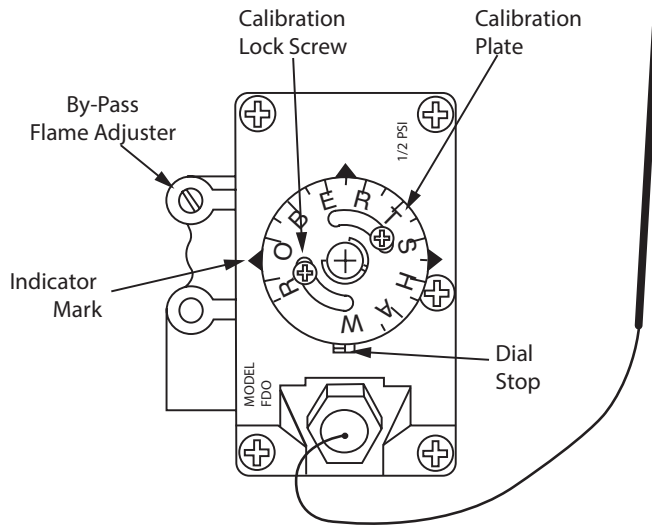
1. Make sure all gas valves are in the OFF position and turn on the main gas supply.
2. Light all pilots in accordance with the User's Instructions.
3. Connect a U-gauge manometer to the pressure test point on the main manifold and turn all gas controls to the ON position.

Confirm that the pressure is the same as stated on the rating plate.

# COMMISSIONING Continued

## Thermostat Bypass Adjustment – Oven

Figure 5



With reference to Figure 5, the Robertshaw FDO snap-throttle thermostat requires a bypass adjustment. To adjust the bypass, follow this procedure.

1. Turn the oven temperature control dial to 200°F (93° C) then allow the oven to heat for 3 minutes.
2. Turn the oven control dial to the OFF position, then slowly turn the oven temperature control dial counter-clockwise until an audible click is heard.
3. Making sure not to disturb the oven temperature control dial, turn the bypass flame adjusting screw and adjust the bypass flame to the Lowest Possible Stable flame covering the Entire Ported Area of the Burner. Turn the adjusting screw counter-clockwise to increase or clockwise to decrease the size of the bypass flame.

NOTE: For calibration please refer to Thermostat Calibration in the Service Section.

# COMMISSIONING Continued

## Pilot Burner Adjustments

### General

1. Light the pilot light in accordance with the Operation Instructions in Operation Section.
2. Check the length of the flame and adjust as necessary for desired characteristics. Screwdriver adjustment may be made to the pilot valve adjacent to the burner valve on the manifold, through the valve panel opening.

### Oven

1. Open the lower kick panel.
2. Remove the oven bottom assembly.
3. Light the pilot light in accordance with the Operations Instructions.
4. Check the length of the pilot light. Adjust pilot flame for desired characteristics. Screwdriver adjustments may be made to the pilot valve, adjacent to the oven burner valve on the manifold, through the valve panel opening.

## Solid Hot Plate/Griddle

1. Light the pilot in accordance with the Operation Instructions.
2. Check the length of the flame. Adjust pilot flame for desired characteristics. Screwdriver adjustment may be made to the pilot valve adjacent to the burner valve on the manifold through the valve panel opening.

## Front Fired Hot Top

1. Light the pilot light in accordance with the Operation Instructions.
2. Check the length of the flame. Adjust pilot flame for desired characteristics. Screwdriver adjustment may be made to the pilot valve adjacent to the burner valve on the manifold through the valve panel opening.

## Broiler

1. Light the pilot light in accordance with the Operation Instructions.
2. Check the length of the flame. Adjust pilot flame for desired characteristics. Screwdriver adjustment may be made to the pilot valve adjacent to the burner valve on the manifold through the valve panel opening.

# OPERATION

This section deals with equipment operating instructions and some of the simple and obvious cleaning methods that will help keep heavy duty cooking equipment in good condition.

## Open Top Burners

1. Open top burner pilots may be reached down through the opening of the top grate.
2. Light the pilots.
3. Turn the valve completely on by rotating the knob to the "ON" position. If burner fails to light after 10 seconds turn the valve "OFF", wait 30 seconds and try again.

NOTE: The burner flame should be a 1/2" stable flame and impinge on the underside of a pot placed on the top grate.

## Shutdown

1. Turn all valves to the off position.
2. If the unit is to be shut down for an extended time, close the in-line gas valve.

Note: Never place sheet pans over open top grates with burners operating, or flip and try using them as a wok.

## Hot top and Spectro-Top Sections

1. Light the pilots via a long match or taper through the opening in the valve panel.
2. Turn the burner valve on by rotating the knob to the "ON" position. A sharp blue flame should be approximately 1/4" high. If burner fails to light after 10 seconds turn the valve "OFF", wait one minute and try again.

# OPERATION Continued

## Shutdown

1. Turn all valves to the off position.

If the unit is to be shut down for an extended time, close the in-line gas valve.

## Thermostatically Controlled Griddles

1. Light the pilots at the front right side of the burner via a long match or tape through the opening in the valve panel.
2. Set the thermostat to maximum one at a time. The burner should have a 5/16" high stable flame. If burner fails to light after 10 seconds turn the valve "OFF", wait two minutes and try again.

**CAUTION: Do not allow the griddle to heat for longer than one minute. The griddle must be seasoned before use. (Refer to the Passage Entitled "Griddle Seasoning").**

## Shut Down

- 1 Turn all thermostat valves to the OFF position.
- 2 If the unit is to be shut down for an extended time, close the in-line gas valve.

## Valve Controlled Griddles

1. Light the pilot at the front right side of the burner via a long match or taper through the opening in the valve panel.
2. Turn the burners on by rotating them to the "ON" position. The burners should have a 1/2" to 5/8" stable blue flame. If burner fails to light after 10 seconds turn the valve "OFF", wait one minute and try again.

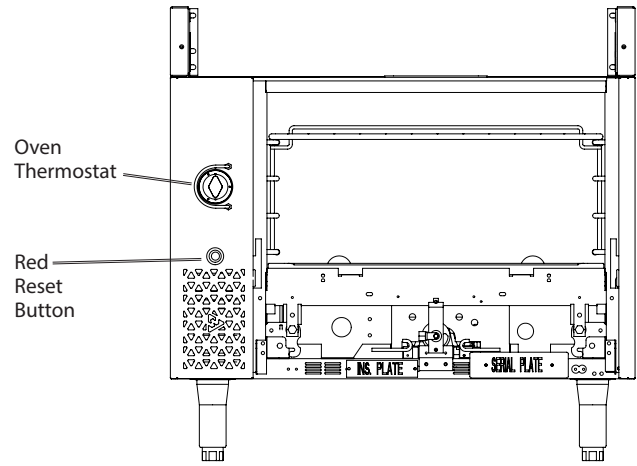
**CAUTION: Do not allow the griddle to heat for longer than one minute. The griddle must be seasoned before use. (Refer to the Passage Entitled "Griddle Seasoning").**

## Shut Down

1. Turn all valves to the OFF position.
2. If the unit is to be shut down for an extended time, close the in-line gas valve.

NOTE: Never exceed the weight limit of 490 lbs. on the top section of the range.

## Oven (Standard)



## Lighting

1. Remove Oven bottom.
2. Depress and hold reset button (red) located through the access hole on the front control panel to the left of the oven door (When facing the unit front.) While lighting the oven pilot, continue to depress the reset button for 60 seconds. Release button. If pilot does not stay lit, repeat this procedure after 5 minutes.
3. Turn oven valve knob to the "ON" position.
4. Rotate oven thermostat dial to the desired setting.

## Shut Down

1. Turn oven valve and thermostats to, the off position.
2. If range is to be shut down for an extended period of time, close the in line gas valve.

## Relighting

1. Shut all gas valves off.
2. Wait 5 minutes.
3. Repeat lighting instructions in lighting above.

NOTE: Never leave the oven door open with oven burner operating.

# OPERATION Continued

## “RC” Convection Ovens

For 115 V usage, a cord and plug is provided but connection to the electrical service must comply with local codes; or in the absence of local codes with the National electrical code, ANSI/NFPA No. 70-(or current edition)in the U.S., or in Canada with the Canadian Electrical Code C22.1-1990 (or latest edition) “Safety Standard for Installation, Part 1” and C22.2- No. O-M 1982 (or latest edition), “General Requirements Part 2.”

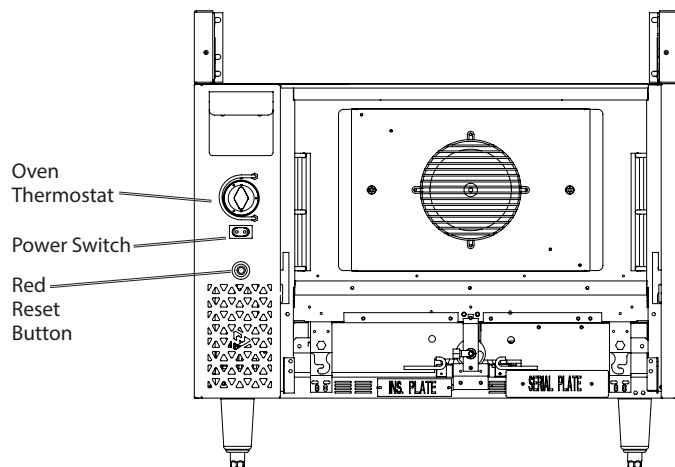
### WARNING:

#### Electrical Grounding Instructions.

This appliance is equipped with a three pronged (grounding) plug for your protection against shock hazard and should be plugged directly into a properly grounded three-pronged receptacle. Do not cut or remove the grounding prong from this plug.

**POWER FAILURE NOTE:** In the event of a power failure, no attempt should be made to operate this oven. This oven is gas operated but has electrical features, motor and door switches.

A wiring diagram is attached to the rear of this unit.



#### Lighting Instructions

1. Remove the lower front panel.
2. Push the power switch to cook position. This will activate the spark module and light the pilot.
3. Using the access hole in the front control panel to the left of the oven door (when facing unit front) depress and hold the reset button (Red) located on the oven safety valve. Continue to depress the reset button for 60 seconds. Release button.

4. If the pilot does not stay lit after you release the reset button, wait 5 minutes and repeat Step 3 & 4.

#### Start Up

1. Turn oven knob on to the “ON” position.
2. Turn thermostat to desired setting.

#### Cool Down

1. Turn thermostat and oven valve off.
2. Open Door.
3. Activate power switch to the cool down position.

#### Shut Down

1. Turn thermostat off.
2. Return power switch to “OFF” position.
3. Turn oven valve off.

The motor on your range convection oven is maintenance free since it is constructed with self lubricating sealed ball bearings. It is designed to provide durable service when treated with ordinary care. We have a few suggestions to follow on the care of your motor.

- A. When the motor is operating, it cools itself internally by air entering the rear of the motor case, provided proper clearance has been allowed.
- B. Since the blower wheel is in the oven cavity it is at the same temperature at the oven. If the motor is stopped while the oven is hot, the heat from the blower wheel is conducted down the shaft and into the armature of the motor. This action could shorten motor life.
- C. We recommend, at the end of the bake or roasting period, when the oven will be idle for any period of time or before shutting down completely, that the oven door be left open, and by use of the cool-down position on the fan switch, the fan continue to run for at least 20 minutes. The “FAN” should never be turned “OFF” when the oven is “HOT”.

# OPERATION Continued

## Unit Broilers

1. Light the pilots via a long match or taper through the opening(s) in the valve panel.
2. Turn the burner valve on by rotating the knob to the "ON" position. A sharp flame should be about 1/4" high.

## Shut Down

1. Turn all valves to the OFF position.

2. If the unit is to be shut down for an extended time, close the in-line gas valve.

## Fryers

- Refer to separate instruction manual provided with fryer unit.

# MAINTENANCE AND CLEANING

## Seasoning

### Griddle Seasoning

- A. Remove all factory applied protective material washing with hot water, mild detergent or soap solution.
- B. Apply a thin coat of cooking oil to the griddle surface, about one ounce per square foot of griddle surface. Spread over the entire griddle surface with a cloth to create a thin film. Wipe off any excess oil with a cloth.
- C. Light all burners, set at lowest possible setting. Some discoloring will occur when heat is applied to steel.
- D. Heat the griddle slowly for 15 to 20 minutes. Then wipe away oil. Repeat the procedure 2 to 3 times until the griddle has a slick, mirror like finish. Do this until you have reached the desired cooking temperature.

**IMPORTANT:** Do not attain high (on valve control) or 450 degrees (on thermostat control) during "Seasoning" period. The griddle will not require reseasoning if it is used properly. If the griddle is over heated and product begins to stick to the surface it may be necessary to repeat the seasoning process again. If the griddle is cleaned with soap and water it will be necessary to reseason the griddle surface again.

## Seasoning Cast Iron Top Grates

First, remove the cast iron top grates from the range. Wash the cast iron top grates thoroughly with a mild soap and warm water. Dry the cast-iron top grates thoroughly with a clean cloth. Immediately after drying season the top grates lightly with a non-toxic (Liquid vegetable oil or Pam spray oil).

**WARNING: Do Not Season the Top Grates While On the Range top! Seasoning grates on the range top over an open flame could cause a flash fire.**

After seasoning, replace the top grates onto the range. Turn all the range open top sections "ON LOW".

Allow the top sections to burn in this manner for at least 20 minutes before using pots or pans on the top grates. **Seasoning of the top grates will be required whenever they have been cleaned. Failure to season grates will cause rusting.**

## Cleaning

### General Cleaning

**NOTE:** Disconnect line cord (if applicable) from power supply before cleaning or servicing.

Proper maintenance, cleaning and care of cooking equipment is an important part of any program and will keep it in good operating condition. These notes provide a code of good practice for users to maintain a regular cleaning schedule.

# MAINTENANCE AND CLEANING Continued

Establish a regular cleaning schedule. Any spill should be wiped off immediately.

The oven should be permitted to cool down before cleaning exterior surfaces. Wipe exposed, cleanable surfaces when cool with a mild detergent and hot water. Stubborn residue spots may be removed with a light weight non-metallic scouring pad. Dry thoroughly with a clean cloth.

NOTE: Many parts of the commercial range are raw steel, (i.e. hot tops, griddles, springs, door hooks, etc.) and can react to moisture, forming rust. This occurrence is normal and not considered a factory defect. Clean with a stainless steel or fiber pad. A coating of salt free oil may be applied.

## Stainless Steel Exterior and Standard Oven Interior Finishes

NOTE: Disconnect line cord (if applicable) from power supply before cleaning or servicing.

For routine cleaning just wash with a hot water and detergent solution. Wash just a small area at a time or the water will evaporate leaving the chemicals behind causing streaking. Rinse the washed area with a clean sponge dipped in a sanitizing solution and wipe dry with a soft cloth before it can dry.

Use a paste (of water and a mild scouring powder) if you have to, but never rub against the grain. All stainless steel should be polished in one direction. Rub with the polished lines to preserve the original finish. Then thoroughly rinse as before.

To prevent finger prints on exterior surfaces there are several stainless steel polishes on the market that leave an oily or wavy film. Do not use on surfaces that will be in contact with food.

Stainless steel may discolor if overheated. These stains can usually be removed by vigorous rubbing with a scouring powder paste.

Use only stainless steel, wooden or plastic tools if necessary to scrape off heavy deposits of grease and oil. Do not use ordinary steel scrapers or knives as particles of the iron may become imbedded and rust. STEEL WOOL SHOULD NEVER BE USED. Either a typical bleach solution or hot water can be used to sanitize stainless steel without harm.

## Oven Interior (Optional Porcelain Enamel Finish)

NOTE: Disconnect line cord (if applicable) from power supply before cleaning or servicing.

1. Before cleaning oven interior, remove all oven racks and guides (if "convection oven" base). Oven racks and guides can be cleaned with a mild soap and warm water or run through dish washer.
2. The porcelain interior can be cleaned with oven cleaners such as "Easy-Off", or "Dow Oven cleaner". Apply only when oven is cold.

# MAINTENANCE AND CLEANING Continued

**Note that griddle, open top grates and burners, hot tops and broiler components should be cool to the touch prior to performing any cleaning procedure.**

## Griddle Cleaning

Do Not use water on griddle tops while still hot or do not cool by using ice! This will cause griddle plate to warp and possibly crack. This is not a factory defect.

To produce evenly cooked, perfectly browned griddle products, keep griddle free from carbonized grease. Carbonized grease on the surface hinders the transfer of heat from the griddle surface to food product. This results in uneven browning and loss of cooking efficiency, and worst of all, carbonized grease tends to cling to the griddle foods, giving them a highly unsatisfactory and unappetizing appearance. To keep the griddle clean and operating at peak performance, follow these simple instructions.

- A. **After Each Use** clean griddle thoroughly with a grill scraper or spatula. Wipe off any excess debris left from cooking process.
- B. **Once a Day** clean griddle surface with a grill brick and grill pad. Remove grease container and clean thoroughly, in same manner as any ordinary cooking utensil.
- C. **Once a Week** clean griddle surface thoroughly. If necessary, use a grill stone or grill pad over the griddle surface. Rub with grain of the metal while still warm. A detergent may be used on the plate surface to help clean it, but care must be taken to be sure it is thoroughly removed. After removal of detergent, the surface of the plate should be covered with a thin film of oil to prevent rusting. To remove discoloration, use a non-abrasive cleaner. Before re-using the griddle must be reseasoned. Keep griddle drain tube to grease container clear at all times on those models without side grease container.

**CAUTION: This griddle plate is steel, but the surface is relatively soft and can be scored or dented by careless use of spatula. Be careful not to dent, scratch or gouge the plate surface. This will cause food to stick in those areas. Also, note, since this is a steel griddle if a light coating of oil is not always present rust will develop on exposed areas.**

## Open Top Burners

Periodically burners should be removed and cleaned with soap and hot water. You may soak the burner in a bucket of hot soapy water and brush off any burnt on grease or debris.

Allow the cast iron burner to dry thoroughly before installing into the range. If the burner ports are blocked or plugged with grease, it will be necessary to clear the ports with a wire or blunt instrument.

## Cast Iron Top Grates

Cast Iron Top Grates can be cleaned with mild soap and warm water. For baked on material, a wire brush can be used. Dry thoroughly. Lightly coat with vegetable oil to help prevent rust from forming.

Seasoning of the top grates will be required whenever the grates have been cleaned. Failure to season grates will cause rusting.

## Cast Iron Hot tops and Spectro-Heat Tops

DO NOT use water on tops while still hot or DO NOT cool by using ice!

While the surface is still slightly warm, wipe down with a clean burlap cloth. Burnt on spillage should be scraped off. If necessary, remove the plate and wash in a sink with soap and hot water. Dry thoroughly. In damp climates, wipe down with a light coating of oil to prevent rusting. Avoid excessive use of water as this could damage the surface and the control below.

NOTE: Cast Iron Hot Tops & Spectro-Heat Tops surface will "tone" (blue/brown discoloration) from heat. This toning will not diminish function or operation and is not a defect.

# MAINTENANCE AND CLEANING Continued

## Broiler Cleaning

### C36-NRR/C36-NRC Models

#### Daily

1. Remove the broiler grates. Wire brush them clean of any encrusted materials and wash in hot, soapy water. A common cleaning practice is to turn grates upside-down to burn off encrusted material. Do not do this with the Cuisine Char-broiler! The flame from the burner is shielded by a cast iron radiant, with the result that heat-not flame – reaches the grate. It is likely that cooked-on matter will cook in even deeper rather than burn off.
2. Remove the radiants and wire brush them clean; then wash in hot, soapy water. A rule of thumb is that if the grates are becoming encrusted, so are the radiants.
3. The Cuisine Char-Broiler uses a double drip tray. The front grease trough (at the top of the unit) downspouts to a 3 5/8" wide tray running the depth of the unit. Remaining grease which drips past the radiants is collected by a second pan covering the remainder of the broiler bottom. The front tray must be checked frequently during operation and drained as necessary; the rear drip pan should also be checked occasionally. Spills should be wiped as they occur and at the end of the day both pans should be washed in hot soapy water.

#### Weekly

If daily maintenance is performed as recommended above, weekly maintenance will not be required beyond the daily cleaning for the last day of the working week.

### C36-ABR/C36-ABC Models

#### Daily

1. Remove the broiler grates. Wire brush them clean of any encrusted materials and wash in hot, soapy water. A common cleaning practice is to turn grates upside-down to burn off encrusted material. Do not do this with the Cuisine Char-broiler! It is likely that cooked-on matter will cook in even deeper rather than burn off.
2. With the grates removed, turn over all the briquettes on the ceramic coal model.
3. Remove the perforated screen, drip pan, and grease can and clean thoroughly.

### C36-ARR/C36-ARC Models

#### Daily

1. Remove the broiler grates. Wire brush them clean of any encrusted materials and wash in hot, soapy water. A common cleaning practice is to turn grates upside-down to burn off encrusted material. Do not do this with the Cuisine Char-broiler! The flame from the burner is shielded by a cast iron radiant, with the result that heat-not flame – reaches the grate. It is likely that cooked-on matter will cook in even deeper rather than burn off.
2. Remove the radiants and wire brush them clean; then wash in hot, soapy water. A rule of thumb is that if the grates are becoming encrusted, so are the radiants.
3. The Cuisine Char-Broiler uses a double drip tray. The front grease trough (at the top of the unit) downspouts to a 3 5/8" wide tray running the depth of the body remaining grease which drips past the radiants is collected by a second pan covering the remainder of the broiler bottom. The front tray must be checked frequently during operation and drained as necessary; the rear drip pan should also be checked occasionally. Spills should be wiped as they occur and at the end of the day both pans should be washed in hot soapy water.

## Adjustments

### Oven Orifice

The top and oven orifices are fixed and cannot be adjusted. Proper rate is attained if the gas supply pressure is adequate. Pressure may be checked by using the 1/8" N.P.T. manifold pressure tap. A properly adjusted air shutter will provide for a distinct blue flame over the entire port area of the burners when at full rate.

### Pilot Adjustments

All pilot adjustment valves are mounted on the range top manifold. The pilot burner for the open top, broiler, griddle or hot top burner should provide for rapid ignition of the burner but should not impinge on any part of the burner. When properly adjusted the pilot flame should neither lift off the burner, nor should it show a yellow tip.

# MAINTENANCE AND CLEANING Continued

## Automatic Pilot Valve

The automatic pilot valve is a protective device which allows gas to flow to the oven burner only when the pilot burner is burning. (This device is used on Cuisine ranges and has safe lighting provisions provided by the flow interrupter which will not allow gas to flow to the oven burner while the red button is depressed).

A too loose or too tight connection of the thermocouple nut to the automatic pilot valve can prevent the thermocouple from activating the valve. It should be drawn up finger tight and the TIGHTENED ONLY 1/4 turn with a wrench.

## Burner Gas/Air Adjustments

Variations in field conditions, rough handling of the equipment in transit may indicate the need for adjustment of primary air to the burners. Check operation and adjust as below to provide a sharp blue flame at full rate (open valve fully so that the thermostat is calling for maximum gas flow). On the burner (Open top, "H" griddle, knuckle, broiler, oven burners) locate the air shutter. Loosen the lock-nut so that the air shutter turns freely (Figure 6). Reinstall burner. Turn on gas flow and ignite burner. Rotate air shutter to obtain the following.

- a. Open Burner 1/2" stable, sharp inner blue cones.
- b. Hot tops, griddles and broilers 1/4" to 5/16" stable, sharp inner blue cones.
- c. Knuckle burners 4" to 6" stable, blue flame, slight yellow tips.

If the burner flames are sharp but lift off the burner ports, reduce the amount of primary air by closing the air shutter. If the burner flames are lazy and yellow in appearance, increase primary air by opening the shutter. If poor burner performance persists check for proper gas pressure.

NOTE: The rates shown in Table C on Page 9 are maximum rates and must not be exceeded.

# CONVECTION OVEN PRODUCT APPLICATION

- As a guide, set oven temperatures 25° to 50° lower than called for in recipes or directions using standard or conventional ovens. Cooking time may be less depending upon the product you are preparing. 2% to 5% is a general rule. Product should be watched the first time it is prepared.
- Cooking time and oven temperature will vary depending upon such factors as size of load, temperature of product, and mixture of recipe, particular moisture.
- When you have established satisfactory time and temperature for your products, record them on a chart and keep as a reference guide.
- Preheat oven thoroughly before use. To reach 350° takes approximately 15 minutes. For optimum results oven should be preheated for 30 minutes to allow for thorough heat saturation.
- The load should be centered on the racks to allow for proper heat circulation around the sides.
- Load size. The oven will hold three (3) 18" x 26" sheet pans, six (6) 12" x 20" x 2.5" steam table pans or one (1) 21" x 18" x 7" roast pan with cover.
- Never place pans directly on the oven bottom. Always use the lowest rack position which will allow the air to circulate within the oven cavity.
- Load and unload food as quickly as possible to prevent an excessive drop in temperature.
- Avoid using wrapped pans since level pans bake more evenly.

## CONVECTION OVEN PRODUCT APPLICATION Continued

- Do not use a deep pan for shallow cakes, cookies, etc. as circulation across the surface is essential for even cooking and browning.
- To prevent excessive shrinkage, roast meats at a low temperature, 250° to 325°.
- When rethermalizing frozen products, preheat the oven 50° higher than cooking temperature to compensate for heat loss during and after loading. Thermostat must be returned to cooking temperature after loading.
- To conserve energy, turn the oven off and cool down when not in use.

## PROBLEM/SOLUTIONS CONVECTION OVEN

Problem	Solution
Cakes are dark on the sides and not done in the center	Lower oven temperature
Cakes edges are too brown	Reduce number of pans or lower oven temperature
Cakes have light outer color	Raise temperature
Cake settles slightly in the center	Bake longer or raise oven temperature slightly. Do not open doors too often or for long periods
Cake ripples	Overloading pans or batter is too thin
Cakes are too coarse	Lower oven Temperature
Pies have uneven color pans	Reduce number of pies per rack or eliminate use of bake pans
Cupcakes crack on top	Lower oven temperature
Meats are browned and not done in center	Lower temperature and roast longer.
Meats are well done and browned	Reduce time. Limit amount of moisture
Meats develop hard crust	Reduce temperature or place pan of water in oven.

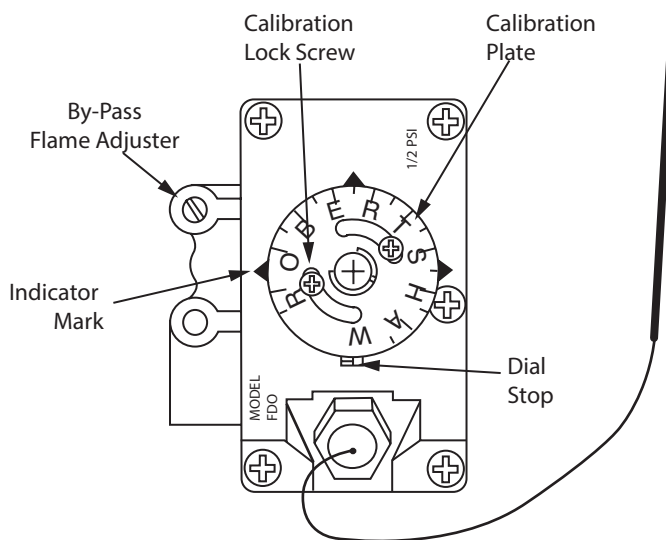
# SERVICING

Regular maintenance and servicing by competent and qualified personnel is recommended for the continued safe and efficient operation of cooking equipment.

**WARNING:** Before working on any appliance, SHUT OFF the gas supply at the main shut-off valve and electrical supply at the main disconnect. On completion of any servicing work, test for gas leaks before returning the equipment into service.

## Thermostat Calibration

### Oven



To check the calibration, follow this procedure:

- 1 Place the thermocouple of the test instrument or a mercury thermometer in the center of the oven.
- 2 Turn the oven control dial to 400°F (202°C) to allow the oven temperature to stabilize. Allow the oven to cycle twice before taking a test reading.
- 3 Check the temperature reading when the control cuts down to bypass. If the temperature does not read within 15° (5°C) of the dial setting recalibrate as follows.
- 4 Remove the control dial, making sure not to disturb the setting.
- 5 Hold the calibration plate and loosen the two calibration lock screws until the plate can be rotated independently of the control.
- 6 Turn the calibration plate until the temperature indicated on the plate corresponds with the reading of a test instrument. Hold the plate and tighten the screws firmly.

- 7 Repeat the temperature reading and check when the control cuts down to bypass to make sure the correct adjustment has been made.

## Cleaning/Servicing Burners

### Open-Type Burners

- 1 Lift and remove the open top grates
- 2 Lift and remove the burner heads. Lift the venturi housing at the rear and slide it backwards off the orifices.
- 3 Clean the burner heads and venturi in hot soapy water with a stiff scrubbing brush.
- 4 Rinse the burner heads and venturi and shake them well to remove the water.
- 6 Make sure the gas ports are free of debris. Clear ports of debris if necessary.
- 7 Reassemble the units in reverse order. Be sure to align hole in bottom of burner head with pin in venturi housing so that head seats properly on housing. Also, install top grates so that integral shields cover open top pilots.

### Front Fired Hot Top Burners

- 1 Remove the key plates from the top of the range.
- 2 Remove the two screws that retain the air shield in place and remove shield.
- 3 Lift the burner to disengage the locating peg and slide it backwards off the orifice.
- 4 Clean the burners in hot soapy water with a stiff scrubbing brush.
- 5 Rinse the burners and shake them well to remove the water.
- 6 Make sure the ports are free of debris. Clear ports of debris if necessary.
- 7 Reassemble the burners in reverse order.

### Solid Hot Top/Griddle Burners

- 1 Lift off the griddle or hot top plates as applicable.
- 2 Lift the rear of the burner and slide it backwards off the orifice.

# SERVICING Continued

3. Clean the burners in hot soapy water with a stiff scrubbing brush.
4. Rinse the burners and shake them well to remove the water.
5. Make sure the ports are free of debris. Clear ports of debris if necessary.
6. Reassemble the burners in reverse order.

## Standard Oven Burners

1. Remove the oven bottom assembly.
2. Remove the two screws that secure the front air shield in place and lift out.
3. Slide the burner towards the rear, off the orifice fitting, and remove from oven.
4. Clean the burner in hot soapy water with a stiff scrubbing brush.
5. Rinse the burner and shake it well to remove the water.
6. Make sure the ports are free of debris. Clear ports of debris if necessary.
7. Reassemble the burners in reverse order.

## RC Oven Burners

1. Open the lower front panel.
2. Remove the right hand oven door spring.

**CAUTION:** The oven door may need additional support to remain closed.

3. Remove the right hand front radiation shield.
4. Slide the burner to the rear and off the orifice. Then slide it to the right and remove it from the combustion chamber.
5. Clean the burner in hot soapy water with a stiff scrubbing brush.
6. Rinse the burners and shake them well to remove the water.
7. Make sure the ports are free of debris. Clear ports of debris if necessary.
8. Reassemble the burners in reverse order.

## Broiler

1. Remove the top grates.
2. Remove the briquettes or radiants.
3. Lift the rear of the burner and slide it to the rear and off the orifice.
4. Clean the burners in hot soapy water with a stiff scrubbing brush.
5. Rinse the burners and shake them well to remove the water.
6. Make sure the ports are free of debris. Clear ports of debris if necessary.
7. Reassemble the burners in reverse order.

## Pilot Burner Cleaning

### Open Top/Hot Top/Griddle/Broiler/Front Fired Hot Top

1. Remove the main burners. Refer to the appropriate section on burner cleaning.
2. Disconnect the pilot gas supply pipe from the pilot burner.
3. Remove the pilot burner.
4. Clean the pilot burner by blowing through it or washing it.

**CAUTION:** Do not use wire to clear the pilot burner. It might damage the unit.

5. Reassemble the pilot burner in reverse order.

## Oven

1. On all models but RC (convection) units, remove the oven bottom assembly. To deal with convection oven (RC) models, follow the procedure specified below.
2. Remove the two screws securing the front air shield and remove it from the oven.
3. Disconnect the pilot gas supply pipe.

## SERVICING Continued

- For RC convection oven models: Follow procedures specified for burner cleaning, then disconnect pilot tubing from the base of the pilot burner and remove two screws retaining pilot bracket to burner rest. Remove bracket and burner from unit. Remove screws retaining burner to bracket.
- Remove pilot jet from pilot burner.
- Clean the pilot burner by blowing through it or washing it in water.

**CAUTION: Do not use wire to clear the pilot burner. It might damage the unit.**

- Reassemble the unit in reverse order.

## REPLACEMENT OF PARTS

For replacement parts, users and service personnel are referred to US Range Cuisine Series Heavy-Duty Ranges and Attachments parts list. This section of the service manual deals only with the replacement of parts on heavy duty cooking equipment.

### **WARNING:**

Before servicing any cooking appliance be certain to SHUT OFF the gas supply at the shut-off valve and the electrical supply at the main disconnect. On completion of any servicing work, test for gas leaks before returning the equipment into service. Regarding electrical work, always shut off the electrical supply at the mains and secure the breaker panel with a lock before doing electrical work. Do not service electrical equipment until the power is securely locked off.

### **Gas Valves**

- Loosen the set screw of each knob and remove the knob of each gas valve and thermostat on the unit.
- Remove the two securing screws on the valve panel and remove it.
- Disconnect the gas tubing from the pressure fitting at the main manifold to the inlet of the gas valve.
- Unthread the gas valve from the manifold.
- Fit a replacement gas valve.
- Re-assemble the unit in reverse order. Do not forget to tighten the set screw of each knob to the stem of each valve.

**NOTE:** For thermostatic griddle units the thermocouple must be removed from the griddle bottom prior to removal of the valve/thermostat. In-order to perform this step prop up the griddle assembly (ensure that it is adequately supported) and remove the capillary shields. The valve/thermostat threads into a fitting on the main manifold. The fitting doesn't have to be removed. Reassemble in reverse order.

### **Oven Thermostat**

- Loosen the set screw of each knob and remove the knob of each gas valve and thermostat on the range.
- Remove the two securing screws on the valve panel and remove it.
- Remove the two screws retaining the front control panel and pull the panel away from the unit. Set the panel a side. On "RC" units gently set the panel aside as power switch is affixed to panel.
- Disconnect the pipe work between the oven gas valve and the thermostat.
- Disconnect the thermocouple connection at the oven gas valve outlet.
- Remove the two thermostat mounting screws and pull the thermostat.
- Disconnect the oven gas supply pipe from the outlet of the thermostat.



# REPLACEMENT OF PARTS Continued

8. Remove the two thermostat mounting screws and pull the thermostat forward.
9. Release the thermostat sensor retaining clips from the oven lining and the sensor from the clips.
10. Withdraw the thermostat sensor from the oven compartment. The thermostat should now be totally free to remove from the appliance.
11. Fit the replacement thermostat and reassemble the unit in reverse order. Do not forget to tighten the set screw of each knob to the stem of each valve and thermostat.

## Power Switch

1. Remove the screws securing the front control panel and pull forward to “unsnap” it from the unit.
2. Disconnect the wires from the terminals on the switch.
3. Depress the tabs on the body of the switch and push the switch through the panel opening.
4. Fit a replacement switch and reassemble in reverse order, ensuring wires are attached correctly.

## Door Switch

1. Remove the screw securing the front control panel and pull out on the panel to “unsnap” it from the unit.
2. Remove the cover protecting the door switch.
3. Remove fasteners securing the door switch to the mounting bracket and remove the switch.
4. Disconnect wires from terminals on switch.
5. Replace with new switch and reassemble in reverse order.

## Oven Pilot

1. Remove the screws securing the front control panel and remove the panel by pulling forward to “unsnap” it from the unit.
2. Disconnect the thermocouple connection at the gas valve.
3. Disconnect the pilot connection at the gas valve.
4. Open the lower front panel.

5. Remove the oven bottom assembly plate. (For RC models, refer to the previous section under burner cleaning.)
6. Disconnect the pilot gas supply pipe at the pilot burner.
7. Remove the screws that secure the pilot mounting bracket to the oven burner support.
8. Remove the pilot assembly.
9. Replace the faulty component and reassemble the unit in reverse order.

CAUTION: Don't over-tighten the connection between the thermocouple and the flame safety device. It is sufficient for it to be finger tight plus a quarter of a turn.

## Convection Ovens (RC) - Spark Module

1. Remove the screws securing the front control panel and pull out on panel to “unsnap” it from the unit. Gently set panel down and ensure its supported.
2. Remove screws from front component support plate and slide forward.
3. Disconnect the wires from spark module.
4. Remove the screws that secure the module.
5. Replace with a new module and reassemble the unit in reverse order.

## Convection Oven (RC) Motor

1. Remove the oven racks from the oven compartment.
2. Remove the two (2) wing screws securing the fan guard and remove the guard.
3. Using an Allen key, loosen the screw securing the fan wheel to the motor shaft.
4. Remove the six (6) screws securing the motor mount plate to the oven casing back and pull the plate forward into the oven compartment.
5. Disconnect the wires from the motor terminals noting which terminal each wire came from.
6. Replace with new motor and reassemble in the reverse order.

# TROUBLESHOOTING GUIDE

<b>Oven (Standard &amp; Convection)</b>		
<b>PROBLEM</b>	<b>POSSIBLE CAUSE</b>	<b>SOLUTION</b>
Oven too hot or not hot enough	Thermostat out of calibration	Check Calibration
Burner flame too large	Incorrect setting pressure or injector	Check setting pressure and injector
Burner flame soft-yellow tip	Insufficient primary air	Check aeration shutter setting
Flame lifts off burner ports	Excessive primary air	Check aeration shutter setting
Flame lights back to the injector	Excessive primary air	Check aeration shutter setting
Burner “pops” when turned off	Excessive primary air	Check aeration shutter setting
Delayed ignition	Pilot flame too small	Check pilot flame length
	Burner ports blocked	Clean burner
	Incorrect aeration	Check aeration shutter setting
	Incorrect setting pressure	Check setting pressure
Pilot burner will not ignite	Pilot orifice blocked	Clean jet
	Pilot adjusting screw closed	Open and adjust flame
Pilot keeps going out	Pilot flame too small	Check pilot flame length
	Loose thermocouple connection	Tighten connection
	Faulty thermocouple	Replace thermocouple
	Faulty gas/safety valve	Replace valve
Low millivolt output on open circuit tests	Pilot flame too small	Adjust pilot flame length
	Defective thermocouple	Replace thermocouple
Millivolt output high in open circuit test but low in closed circuit	Faulty gas/safety valve	Replace valve
Millivolt output high on closed circuit test but flame safety tap will not stay open	Faulty gas/safety valve	Replace valve
Door will not stay closed	Insufficient tension on springs	Adjust tension
	Broken spring	Replace spring
	Broken hinge link	Replace
Door will not stay open	Too much tension on springs	Adjust tension
Door not closing on one side	Door warped	Replace door
Door not level or low in centre	Trunion support loose	Level and tighten
	Trunion support worn	Replace
<b>Oven (Standard Only)</b>		
Burner flame shuts off when oven is at the required temperature	Thermostat has incorrect by-pass rate	Adjust by-pass or replace them



## TROUBLESHOOTING GUIDE Continued

<b>Oven (Convection Only)</b>		
<b>Problem</b>	<b>Possible Cause</b>	<b>Solution</b>
Cook/Cool Down switch set to "Cook" position Light off Motor working	No power to oven	Check power supply
	Defective Cook/Cool down Switch	Replace Switch
	Faulty wiring	Check condition of wires and all connections
Cook/Cool Down switch set to "Cook" position Light off Motor not working	Defective Cook/Cool Down switch	Replace switch
	Defective door switch	Replace switch
	Door switch out of alignment	Align switch
	Oven door open	Close door
	Faulty wiring	Check condition of wires and all connections
	Defective motor	Replace motor
Noisy motor	Blower wheel rubbing on oven baffle	Adjust blower wheel
	Blower wheel loose on motor shaft	Retighten blower wheel
	Defective motor	Replace motor
Cook/Cool Down switch set to "Cool Down" position Light on, motor not working	Defective Cook/Cool Down switch	Replace switch
	Defective door switch	Replace switch
	Door switch out of alignment	Align switch
	Faulty wiring	Check condition of wires and all connections
No spark to pilots	Disconnected or loose hi tension wires	Reconnect hi tension wires
	Defective spark module	Replace module
	No Power to range	Check power supply
<b>Open Top, Solid Hot Top, Griddles &amp; Broilers</b>		
<b>Problem</b>	<b>Possible Cause</b>	<b>Solution</b>
Burner flame too large	Incorrect setting pressure or injector	Check setting pressure and injector
Burner flame soft-yellow tip	Insufficient primary air	Check aeration shutter setting
Flame lifts off burner ports	Excessive primary air	Check aeration shutter setting
Flame lights back to the injector	Excessive primary air	Check aeration shutter setting
Burner "pops" when turned off	Excessive primary air	Check aeration shutter setting
Delayed ignition	Pilot flame too small	Check pilot flame length
	Burner ports blocked	Clean burner
	Incorrect aeration	Check aeration shutter setting
	Incorrect setting pressure	Check setting pressure
Pilot burner will not ignite	Pilot orifice blocked	Clean jet
	Pilot adjusting screw closed	Open and adjust flame length
Pilot keeps going out	Pilot flame too small	Check pilot flame length
	Loose thermocouple connection	Tighten connection
	Faulty thermocouple	Replace thermocouple
Low millivolt output on open circuit tests	Pilot flame too small	Adjust pilot flame length
	Defective thermocouple	Replace thermocouple





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